Amendments to The Claims

The following listing of claims replaces all prior versions and listings of the claims in this application.

Listing of the Claims

1-193. (Cancelled)

194. (Currently amended) A recombinant cell that expresses a heteromeric taste receptor that responds to sweet taste stimuli, wherein said receptor is comprised of at least one T1R2 polypeptide and at least one T1R3 polypeptide ~~that specifically binds to and/or is activated by sweet taste stimuli~~, wherein said T1R2 polypeptide is (i) encoded by a nucleic acid sequence comprising SEQ. ID. NO: 10, (ii) encoded by a nucleic acid sequence comprising a nucleic acid that hybridizes to SEQ. ID. NO: 10 under stringent hybridization conditions which are conducting the hybridization reaction at 42°C in a solution comprising 50% formamide, 5X SSC, and 1% SDS and washing at 65°C in a solution comprising 0.2X SSC and 0.1% SDS, or (iii) a T1R2 polypeptide possessing at least 90% sequence identity to the T1R2 polypeptide of SEQ. ID. NO: 6;

and wherein said T1R3 polypeptide is (i) encoded by a nucleic acid sequence comprising SEQ. ID. NO: 9 or SEQ. ID. NO: 11; (ii) encoded by a nucleic acid sequence that hybridizes to SEQ. ID. NO: 9 or SEQ. ID. NO: 11 under stringent hybridization conditions which are conducting the hybridization reaction at 42°C in a solution comprising 50% formamide, 5X SSC, 10% SDS; and washing at 65°C in a solution comprising 0.2X SCC and 0.1% SDS, or (iii) a T1R3 polypeptide possessing at least 90% sequence identity to the T1R3 polypeptide of SEQ. ID. NO: 4 or SEQ. ID. NO: 7.

195. (Previously presented) The cell of claim 194, which is selected from the group consisting bacterial, yeast, mammalian, amphibian and insect cells.

196. (Previously presented) The cell of claim 194, wherein said cell is a prokaryotic cell.

197. (Previously presented) The cell of claim 194, wherein said cell is a eukaryotic cell.

198. (Previously presented) The cell of claim 197, wherein said eukaryotic cell is a CHO, HEK-293, COS or Xenopus oocyte.

199. (Previously presented) The cell of claim 194, wherein said T1R2 and T1R3 are derived from different species.

200. (Currently amended) The method of claim ~~199~~ 194, wherein said T1R2 and T1R3 are of the same species.

201. (Previously presented) The method of claim 194, wherein said T1R2 is selected from mouse T1R2, rat T1R2, human T1R2 and said T1R3 is selected from mouse T1R3, rat T1R3 and human T1R3.

202. (Previously presented) The cell of claim 194, wherein T1R2 and T1R3 nucleic acid sequences are stably integrated into said cell.

203. (Currently amended) The cell of claim 194, wherein T1R2 and T1R3 nucleic acid sequences ~~are comprised on~~ comprise an extrachromosomal element.

204. (Currently amended) The cell of claim 194, which comprises T1R2 and T1R3 nucleic acid sequences that are operably linked to a ~~constitutional~~ constitutive promoter.

205. (Previously presented) The cell of claim 194, which comprises T1R2 and T1R3 nucleic acid sequences that are operably linked to an inducible promoter.

206. (Previously presented) The cell of claim 194, which further expresses a G protein.

207. (Previously presented) The cell of claim 206, wherein said G protein is G_{a15}, G_{a16} or gustducin.

208. (Currently amended) The cell of claim 194, wherein said ~~T1R3~~ T1R2 polypeptide has the amino acid sequence ~~contained in~~ of SEQ. ID. NO: 6.

209. (Currently amended) The cell of claim 194, wherein said T1R2 polypeptide has an amino acid sequence that possesses at least 90% sequence identity to the amino acid sequence ~~contained in~~ of SEQ. ID. NO: 6 ~~or a fragment thereof that when expressed in association with a T1R3 polypeptide results in a functional sweet taste receptor~~.

210. (Currently amended) The cell of claim ~~209~~ 194, wherein said T1R2 polypeptide has at least 95% sequence identity to the polypeptide ~~contained in~~ of SEQ. ID. NO: 6.

211. (Currently amended) The cell of claim ~~209~~ 194, wherein said T1R2 polypeptide has at least 96% sequence identity to the polypeptide ~~contained in~~ of SEQ. ID. NO: 6.

212. (Currently amended) The cell of claim ~~209~~ 194, wherein said T1R2 polypeptide has at least 97% sequence identity to the polypeptide ~~contained in~~ of SEQ. ID. NO: 6.

213. (Currently amended) The cell of claim ~~209~~ 194, wherein said T1R2 polypeptide has at least 98% sequence identity to the polypeptide ~~contained in~~ of SEQ. ID. NO: 6.

214. (Currently amended) The cell of claim ~~209~~ 194, wherein said T1R2 polypeptide has at least 99% sequence identity to the polypeptide ~~contained in~~ of SEQ. ID. NO: 6.

215. (Currently amended) The cell of claim ~~209~~ 194, wherein said T1R2 polypeptide is encoded by the nucleic acid sequence ~~contained in~~ of SEQ. ID. NO: [[8]] 10 ~~or a fragment thereof that when expressed in association with a T1R3 polypeptide results in a functional sweet taste receptor~~.

216. (Currently amended) The cell of claim ~~209~~ 194, wherein said T1R2 polypeptide is encoded by a nucleic acid sequence that ~~specifically hybridizes to the sequence contained in SEQ. ID NO: 10 under stringent hybridization conditions~~ hybridizes to SEQ. ID. NO: 10 under stringent hybridization conditions which are conducting the hybridization reaction at 42°C in a

solution comprising 50% formamide, 5X SSC, and 1% SDS and washing at 65°C in a solution comprising 0.2X SSC and 0.1% SDS.

217. (Currently amended) The cell of claim 194, wherein said T1R3 polypeptide has the amino acid sequence ~~contained in~~ of SEQ. ID. NO: 4 or SEQ.ID.NO: 7.

218. (Currently amended) The cell of claim 194, wherein said T1R3 polypeptide has an amino acid sequence that possesses at least 90% sequence identity to the amino acid sequence ~~contained in~~ of SEQ. ID. NO: 4 or SEQ. ID. NO: 7 ~~or a fragment therewith that when expressed in association with a T1R2 polypeptide results in a functional sweet taste receptor~~.

219. (Currently amended) The cell of claim ~~218~~ 194, wherein said T1R3 polypeptide exhibits at least 95% sequence identity to the polypeptide ~~compound in~~ of SEQ. ID. NO: 4 or SEQ.ID.NO:7.

220. (Currently amended) The cell of claim ~~218~~ 194, wherein said T1R3 polypeptide exhibits at least 96% sequence identity to the polypeptide ~~compound in~~ of SEQ. ID. NO: 4 or SEQ.ID.NO:7.

221. (Currently amended) The cell of claim ~~218~~ 194, wherein said T1R3 polypeptide exhibits at least 97% sequence identity to the polypeptide ~~compound in~~ of SEQ. ID. NO: 4 or SEQ.ID.NO:7.

222. (Currently amended) The cell of claim ~~218~~ 194, wherein said T1R3 polypeptide exhibits at least 98% sequence identity to the polypeptide ~~compound in~~ of SEQ. ID. NO: 4 or SEQ.ID.NO:7.

223. (Currently amended) The cell of claim ~~218~~ 194, wherein said T1R3 polypeptide exhibits at least 99% sequence identity to the polypeptide ~~compound in~~ of SEQ. ID. NO: 4 or SEQ.ID.NO:7.

224. (Currently amended) The cell of claim ~~218~~ 194, wherein said T1R3 polypeptide is encoded by the nucleic acid sequence ~~contained in~~ of SEQ. ID. NO: 9 or SEQ. ID. NO: 11.

225. (Currently amended) The cell of claim ~~218~~ 194, wherein said T1R3 polypeptide is encoded by a nucleic acid sequence that ~~hybridizes under stringent hybridization conditions to the nucleic acid sequence contain in SEQ. ID NO: 9~~ hybridizes to SEQ. ID. NO: 9 or SEQ. ID. NO: 11 under stringent hybridization conditions which are conducting the hybridization reaction at 42°C in a solution comprising 50% formamide, 5X SSC, and 1% SDS and washing at 65°C in a solution comprising 0.2X SSC and 0.1% SDS ~~or a fragment thereof that when expressed in association with a T1R2 polypeptide yields a functional sweet taste receptor~~.

226. (Currently amended) The cell of claim 194, which expresses a T1R2 polypeptide ~~having~~ comprising SEQ. ID. NO: 6 and a T1R3 polypeptide ~~having~~ comprising SEQ. ID. NO: 4 or SEQ. ID. NO: 7 .

227. (Previously presented) The cell of claim 226, which is a eukaryotic cell.

228. (Previously presented) The cell of claim 227, which is a mammalian, yeast, amphibian or insect cell.

229. (Previously presented) The cell of claim 227, which is a CHO, COS, HEK-293 or Xenopus oocyte.

230. (Previously presented) The cell of claim 229, which is an HEK-293 cell.

231. (Previously presented) The cell of claim 229, which stably expresses said T1R2 and T1R3 polypeptides.

232. (Previously presented) The cell of claim 229, which transiently expresses said T1R2 and T1R3 polypeptides.

233. (Previously presented) The cell of claim 226, which further expresses a G protein.

234. (Previously presented) The cell of claim 233, wherein said G protein is G_{a15} and G_{a15} or gustducin.

235. (New) A recombinant cell that expresses a heteromeric taste receptor that responds to sweet taste stimuli, wherein said receptor is comprised of at least one T1R2 polypeptide and at least one T1R3 polypeptide, wherein said T1R2 polypeptide is a T1R2 polypeptide possessing at least 90% sequence identity to the human, mouse, or rat T1R2 of Figure 1; and wherein said T1R3 polypeptide is a T1R3 polypeptide possessing at least 90% sequence identity to the human, mouse, or rat T1R3 of Figure 1.

236. (New) The cell of claim 235, which is selected from the group consisting bacterial, yeast, mammalian, amphibian and insect cells.

237. (New) The cell of cell 235, wherein said cell is a prokaryotic cell.

238. (New) The cell of claim 235, wherein said cell is a eukaryotic cell.

239. (New) The cell of claim 238, wherein the eukaryotic cell is a CHO, HEK-293, COS or Xenopus oocyte.

240. (New) The cell of claim 235, wherein said T1R2 and T1R3 are derived from different species.

241. (New) The method of claim 235, wherein said T1R2 and T1R3 are of the same species.

242. (New) The cell of claim 235, which further expresses a G protein.

243. (New) The cell of claim 246, wherein said G protein is $G\alpha_{15}$, $G\alpha_{16}$ or gustducin.

244. (New) The cell of claim 235, wherein T1R2 polypeptide is the human, mouse, or rat T1R2 of Figure 1.

245. (New) The cell of claim 235, wherein said T1R2 polypeptide has at least 95% sequence identity to the human, mouse, or rat T1R2 of Figure 1.

246. (New) The cell of claim 235, wherein said T1R2 polypeptide has at least 96% sequence identity to the human, mouse, or rat T1R2 of Figure 1.

247. (New) The cell of claim 235, wherein said T1R2 polypeptide has at least 97% sequence identity to the human, mouse, or rat T1R2 of Figure 1.

248. (New) The cell of claim 235, wherein said T1R2 polypeptide has at least 98% sequence identity to the human, mouse, or rat T1R2 of Figure 1.

249. (New) The cell of claim 235, wherein said T1R2 polypeptide has at least 99% sequence identity to the human, mouse, or rat T1R2 of Figure 1.

250. (New) The cell of claim 235, wherein T1R3 polypeptide is the human, mouse, or rat T1R3 of Figure 1.

251. (New) The cell of claim 235, wherein said T1R3 polypeptide has at least 95% sequence identity to the human, mouse, or rat T1R3 of Figure 1.

252. (New) The cell of claim 235, wherein said T1R3 polypeptide has at least 96% sequence identity to the human, mouse, or rat T1R3 of Figure 1.

253. (New) The cell of claim 235, wherein said T1R3 polypeptide has at least 97% sequence identity to the human, mouse, or rat T1R3 of Figure 1.

254. (New) The cell of claim 235, wherein said T1R3 polypeptide has at least 98% sequence identity to the human, mouse, or rat T1R3 of Figure 1.

255. (New) The cell of claim 235, wherein said T1R3 polypeptide has at least 99% sequence identity to the human, mouse, or rat T1R3 of Figure 1.